Electricity Information Exchange Protocols (EIEP)

EIEP3: Half hour metering information
Regulated

Effective from 1 October 2019

Version control

Version	Date amended	EIEP Ref	Comments
10	11 November 2013 1 May 2014 30 May 2014	EIEP3	Amendments from March 2013 consultation Template reformatted Approved and publicised by the Authority
10.1 draft	30 June 2017	EIEP3	Amendments include: Terminology alignment with ENA pricing guidelines and preferences agreed with ENA Improvements to add clarity and consistency to content
11	2 October 2018	EIEP3	Improvements to add further clarity and consistency following submissions received in response to the 4 August 2017 consultation paper and the Authority's responses and decisions set out in the decision paper. Requirements for New Zealand Daylight Time adjustment techniques, consistent with the corresponding changes made to EIEPs 1 and 2. New business requirement 24 to specify that the combination of ICP, Data Stream ID, Date, Period, Flow direction, and Data stream type (in the few situations where this is used), must be unique within a file Business requirement 3 and 23 subject to business requirement 18

Contents

1 EIEP3: Half hour metering information

Title:	EIEP3: Half hour metering information
Version:	11
Application:	This protocol allows a) traders to provide half hour metering information to distributors at an ICP level to enable distributors to invoice traders for fixed and variable network charges associated with ICPs where half hour metering information is required, to meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and provide information to the extended reserve manager. b) embedded network owners to provide half hour metering information to the parent network owner for LE ICPs.
Participants:	Trader/Distributor
Code reference:	Clause 12A.14
Dependencies:	The use of system agreement (UoSA) between the distributor and the trader may also set out requirements relating to the information that must be provided in this file.

Description of when this protocol applies
A data file formatted in accordance with EIEP3 is to be forwarded by the trader to the distributor to provide half hour metering information that enables the calculation of network charges for individual ICPs, meet the distributor's network planning, pricing design, and regulatory information disclosure requirements, and provide information to the extended reserve manager. The information contained in an EIEP3 format file must be metered half hour data by ICP where the meter channel records real energy volume (in kWh) together with either or both reactive energy volume (in kVArh) or apparent energy volume (in kVAh). This protocol can accommodate multiple ICPs in a single file or an individual file per ICP. An EIEP3 file is generally not required where an EIEP1 file can provide the information required for billing of network charges.

Business requirements

1. The distributor and each trader must agree on the file transport mechanism by which the trader or distributor will provide information and the destination address. Non-manual interfaces use electronic file transfer- either via File Transfer Protocol (FTP) or Secure File Transfer Protocol (SFTP) connectivity. In the case of FTP a security mechanism must be used to protect confidentiality. Whatever method is agreed that method must be in a format approved and published by the Authority.

2. Where information is required to be transferred using email, the contents must be delivered in a secure manner and password protected.

3. Subject to business requirement 18, and unless otherwise agreed between parties, an EIEP3 file containing half hour metering information for the previous period must be delivered by 1700 hours on the 5th business day (business day as defined in the Code) of the current month.

4. An agent may provide data on behalf of the relevant reconciliation participant, in which case the header for EIEP3 will identify the reconciliation participant. The appointment of an agent must be a

Business requirements

permission function of the responsible reconciliation participant and receiving participants must allow for agents in their systems.

5. A trader or distributor must only use codes that are:

    (a)   stipulated in this document; or

    (b)   approved and published by the Electricity Authority; or

    (c)   determined in the registry and reconciliation functional specifications; or

6. Information provided in the file will be consistent with the terminology used in the Glossary of Standard Terms published by the Authority.

7. The file must contain all mandatory information, failure to provide the required information will result in the file being deemed as incomplete.

8. Information is to be provided in accordance with the following status codes unless otherwise specified:

    O Optional

    M Mandatory

    C Conditional - Mandatory if available, otherwise Null (also refer to validation rules)

9. To assist in understanding where these apply when files can be communicated both ways between participants, the relevant status code is given in the assigned column either Trader to Distributor or Distributor to Trader

10. Data must be provided for the previous period of consumption, which also aligns with the reconciliation trading periods.

11. The data in an EIEP3 file will normally cover a complete calendar month, unless the sender makes it clear that a shorter period applies and cannot cover more than one calendar month or span two calendar months.

12. The trading period is the half hour ending based on New Zealand Daylight Savings time, giving 48 trading periods in the day, with the exception of the winter/summer and summer/winter transition days where there are 46 and 50 (respectively) trading periods in the day.

13. If an ICP has multiple meter channels which differ from the standard configuration, the report must be compiled to provide a single kWh measurement together with either a kVArh or kVAh measurement for each trading period. Any additional channels for which data is collected must be reported as additional records in the same file. These additional records should be identified by using the 'data stream identifier', 'data stream type' and 'energy flow direction' fields.

14. If it is agreed between the parties, multiple channels containing the same type of information (e.g. two kWh channels) may be summated. This may remove the requirement for additional files or records.

15. Injection and extraction is to be shown with the 'energy flow direction' indicator, where X (extraction) together with a positive 'unit quantity' represents electricity leaving the network, and I (injection) together with a positive 'unit quantity' represents electricity entering the network (e.g. as a result of embedded generation). Extraction and injection volumes, even where on the same network price component code, are not to be netted off against each other, and must instead be represented with separate records in the file.

16. If one of the optional channels (kVArh or kVAh) is not being reported then the field should be included in the file for completeness but the contents of the field must contain a Null (not a zero).

17. Although this file format is intended to provide active and reactive energy, if the reactive energy measurement is not available (e.g. where it is not applicable) then Nulls must be provided in the reactive energy (kVArh) and apparent energy (kVAh) fields.

18. If the trader or distributor becomes aware of a format error in a transmitted file, or the file is incomplete, that party must advise the other party as soon as practicable after becoming aware of the issue. Where metering equipment failure or communications issues prevents validated data for all ICPs being provided to the distributor by 1700 hours on the 5th business day, it must provide the distributor with validated data for the missing ICPs as soon as possible after the 5th business day.

Business requirements

19. If no agreement can be reached as to whether the file is to be a partial or full replacement for the correction of the error as above, then a full replacement file is required.

20. Recipients of EIEP3 files must be capable of receiving I (initial), R (complete replacement) and X (partial replacement) files.

21. The first file for the report month should have file status I (initial). Subsequent files should either be R (full replacement) or X (partial replacement). On receiving an R file, the recipient should remove all previous data for that report month and replace it with the data from the new file. Individual ICPs can be replaced by using an X file status, in which case just those ICPs should be removed and replaced. X files can contain replacement data for ICPs included in the initial I file or data for ICPs that were not included in the Initial file.

22. If it is known that the meter reading is taken at the end of the report month, then the 'reading type' F (final) must be used and the data is final.

23. Subject to business requirement 18, the report is to include all ICPs (or each single ICP) with a registry status of Active against the trader during part or all of the report month.

24. To address a situation where a trader is providing two different sets of data (from separate meters) and receiving systems cannot distinguish between the two, the combination of ICP, Data Stream ID, Date, Period, Flow direction, and Data stream type (in the few situations where this is used), must be unique within a file.

25. Volume information exchanged between traders and distributors that contains trading period specific data, or is derived from trading period specific data, must, if applicable, be adjusted for New Zealand Daylight Time using the "trading period run on technique" which requires that daylight saving adjustment periods are allocated as consecutive trading periods within the relevant day, in the sequence they occur. Further information relevant to New Zealand Daylight Time adjustment techniques can be found in clause 15.36 of the Code.

General requirements

1. If there are any conflicts between this document and the Code, the Code will take precedence.

2. In general, all participants must provide the recipient with:

    (a) accurate information for all points of connection at which they are responsible for the current consumption period

    (b) when available, revised information for all points of connection at which they have purchased or sold electricity during any previous consumption period

    (c) any additional information requested in respect of any consumption period.

3. A number of data transfers are required between participants for the EIEP process to take place. Unless the relevant participants have previously agreed otherwise, these data flows must be those required by the Code. At all times data transfers must take place in a secure and predictable manner.

4. It is the responsibility of participants to meet the principles of the Privacy Act when exchanging customer information.

Data inputs

Information from a participant's billing system and/or reconciliation submission file.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional		Validation rules
Header record type	Char 3	M		HDR – indicates the row is a header record type
File type	Char 7	M		ICPHH – indicates data file is of type ICPHHR
Version of EIEP	Num 3.1	M		Version of EIEP protocol that is being used for this file.
Sender	Char 20	M		Name of sending party. Participant identifier to be used if the sender is a participant.
Sent on behalf of	Char 4	M		Participant identifier of party on whose behalf consumption data is provided.
Recipient Participant identifier	Char 4	M		Valid recipient participant identifier
Report run date	DD/MM/YY YY	M		Date the report is run
Report run time	HH:MM:SS	M		Time the report is run
Unique file identifier	Char 15	M		Number that uniquely identifies the file.
Number of detail records	Num 8	M		Total number of DET records in report
Report month	YYYYMM	M		The month the report is run for.
Utility type	Char 1	M		Type of energy supply; G = Gas; or E = Electricity
File status	Char 1	M		I = Initial or R = Replacement or X = Replace only those ICPs contained in this replacement file

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional		Validation rules
Detail record type	Char 3	M		DET – indicates the row is a detail record.

Event data	Format	Trader to Distributor: Mandatory/ Optional/ Conditional		Validation rules
ICP identifier	Char 15	M		ICP identifier means a unique identifier for an ICP created by a distributor in accordance with clause 1 of Schedule 11.1
Data stream identifier	Char 18	M		Data stream Identifier used by Sender, usually the meter number (e.g. meter number for each different data set under the one ICP)
Reading type	Char 2	M		Final (F) or Estimate (E) - estimate status indicates that the meter could not be read and the data will be revised.
Date	DD/MM/YY YY	M		Date of measurement.
Trading period	Int 2	M		Trading period – 1 to 48 (46 or 50 for Daylight Saving).
Active energy (kWh)	Num 12.2	C		Consumption in kWh. Required unless the data stream represents reactive energy injection and the active energy injection is not measured.
Reactive energy (kVArh)	Num 12.2	C		Reactive energy in kVArh, Can only be NULL if kVAh is supplied or is not available (recommended that kVArh and kVAh are provided)
Apparent energy (kVAh)	Num 12.2	C		Apparent energy in kVAh, can only be NULL if kVArh is supplied or is not available
Energy flow direction	Char 1	M		An identifier of whether the channel records the import (injection from the ICP into the network) ("I"), or the export (extraction from the network to the ICP) ("X")
Data stream type	Char 10	C		Null implies standard billable volume else defined by receiver

Protocol specifications
1. The information is to be provided as a comma delimited text file. Commas are therefore prohibited within fields. 2. Each formatted file will consist of one or more records, with each record being a single line of text as defined in the business rules. Records are to be delimited with one of the following:

Protocol specifications
(a) a carriage return character and a line feed character combination (ASCII characters 13 and 10) commonly used in Windows based programs, or
(b) a line feed character (ASCII character 10) commonly used in Unix based programs, or
(c) a carriage return character (ASCII character 13) commonly used in Mac based programs.
3. Data fields within files must be defined using the attributes in the table following these specifications.
4. Matching of file names, code list values, etc, must to be case insensitive.
5. Each data file must contain only one header but can contain any number of detail records.
6. The first record of a file must contain 'Header" information followed by one or more detail lines.
7. Each file created must have a file name as outlined below and must have names that are unique within any month: Sender + Utility Type + Recipient + File Type + Report Month + Report Run Date + UniqueID# (e.g. hhmm run time, or ICP but limited to Char (60) with an extension of .TXT and with the components concatenated using the underscore character, to assist readability. e.g.   TRUS_E_UNET_ICPHH_200007_20000802_1232.TXT [Char4_Char1_Char4_   Char7_yyyymm_yyyymmdd_UniqueID.TXT]

Data outputs

2   Table of codes used in EIEP3

2.1   Table 1 List of attributes to define data fields used in EIEP3

Logical format	Data type	Rules	Example
INT (n)	Integer	ASCII representation of an integer number (ie no decimals), no leading zeros, no spaces, a leading "-" if negative (no sign if positive), with 1 to n digits. Numbers only: ASCII characters 48 to 57, and 45 where applicable.	INT (4) 12 -1234
NUM (n.d)	Decimal	ASCII representation of a decimal number (ie a rational number), no spaces, a leading "-" if negative (no sign if positive), with up n digits including up to (n minus d) digits to the left of the decimal place, and up to d digits to the right of the decimal place. For integers, the decimal point is not required. A decimal point on its own must not be used to represent zero (use "0") Trailing zeros are optional.	NUM (6.2) 123.45 1234.0 -12.32 NUM (6.3) -0.123 23.987 987.000 8

Logical format	Data type	Rules	Example
		No leading zeros other than when the number starts with "0."	
		Numbers only: ASCII characters 48 to 57, and 45/46 where applicable.	
CHAR (n)	Text	Up to n characters (ASCII characters 32 to 43 and 45 to 126 only).	The quick brown fox
		As commas (ASCII character 44) are used as field separators, they must not be used within the field data (it is recommended that any commas found in source data be changed to a semi-colon (ASCII character 59) when files are created.	
		Fields must not contain any leading or trailing spaces.	
DATE	Date	ASCII format with: Year represented as: — YYYY for century and year Month represented as: — MM to display leading zero Day represented as — DD to display leading zero ASCII format for any separators used	YYYYMMDD e.g. 20050216 DD/MM/YYYY e.g. 16/02/2005
TIME	Time	ASCII in 24 hour format Hour represented as HH with leading zeros Minutes represented as MM with leading zeros Seconds represented as SS with leading zeros ASCII format for any separators used Note: both NZST and NZDT will be used and will be indicated as necessary	HH:MM:SS e.g. 13:15:01 HH:MM e.g. 13:15
DATETIME	Date/Time	ASCII format with same rules as both Date and Time Data Types	YYYYMMDDHHMMSS e.g. 20050216131501
NULL	Null	Field contains no data	

2.2   Table 2 ASCII character set for use within fields of EIEP3

Character	ASCII	Character	ASCII	Character	ASCII
32	Space	64	@	97	a
33	!	65	A	98	b
34	"	66	B	99	c
35	#	67	C	100	d
36	$	68	D	101	e
37	%	69	E	102	f
38	&	70	F	103	g
39	'	71	G	104	h
40	(	72	H	105	i
41	)	73	I	106	j
42	*	74	J	107	k
43	+	75	K	108	l
		76	L	109	m
45	-	77	M	110	n
		78	N	111	o
46	.	79	O	112	p
47	/	80	P	113	q
48	0	81	Q	114	r
49	1	82	R	115	s
50	2	83	S	116	t
51	3	84	T	117	u
52	4	85	U	118	v
53	5	86	V	119	w
54	6	87	W	120	x
55	7	88	X	121	y
56	8	89	Y	122	z
57	9	90	Z	123	{
58	:	91	[	124		
59	;	92	\	125	}
60	<	93	]	126	~
61	=	94	^		
62	>	95	_		
63	?	96	`		